Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class:\_\_\_\_\_\_\_\_

Part 1: Read the following information on elements, compounds and mixtures.

Elements (pure substances):

1. A pure substance containing only one kind of \_\_\_\_\_\_\_\_\_\_\_\_.
2. An element (can or cannot) be separated into simpler materials by physical or chemical means.
3. Over 100 existing elements are listed and classified on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Compounds (pure substances):

1. A pure substance containing two or more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kinds of atoms.
2. The atoms are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (chemically combined).
3. Compounds (can or cannot) be separated by physical means. Separating a compound requires a chemical reaction.

Mixtures:

1. Two or more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ NOT chemically combined.
2. Is there a chemical reaction between substances (Yes or No).
3. Mixtures can be uniform, called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Mixtures can also be non-uniform, called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Mixtures (can or cannot) be separated into their components by chemical or physical means.
6. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is two substances that appear homogeneous, but contains a solute and a solvent.
7. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the substance being dissolved.
8. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the substance doing the dissolving.
9. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a heterogeneous mixture that will ‘settle out’ over time.
10. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a ‘semi-solid’ that is in a state between solid and liquid.
11. What is the difference between an element and a compound?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If nail polish is dissolved into acetone (nail polish remover), which is the solute and which is the solvent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe the difference between an atom and a molecule: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 2:** Classify each of the following as elements (E), compounds (C) or Mixtures (M). Write the letter X if it is none of these.

\_\_\_Lucky Charms \_\_\_Sugar (C6H12O6) \_\_\_Milk \_\_\_Iron (Fe)

\_\_\_Air \_\_\_Sulfuric Acid (H2SO4) \_\_\_Gasoline \_\_\_Electricity

\_\_\_Krypton (K) \_\_\_Bismuth (Bi) \_\_\_Uranium (U) \_\_\_Popcorn

\_\_\_Water (H2O) \_\_\_Alcohol (CH3OH) \_\_\_Pizza \_\_\_Titanium (Ti)

\_\_\_Ammonia (NH3) \_\_\_Salt (NaCl) \_\_\_Energy \_\_\_Gold (Au)

\_\_\_Kool-Aid \_\_\_Baking Soda (NaHCO3) \_\_\_Dry Ice (CO2) \_\_\_ Skittles

**Part 3:** Match each diagram with its correct description.

**A B C D E**

\_\_\_1. Pure Element – only one type of atom present.

\_\_\_2. Mixture of two elements – two types of uncombined atoms present.

\_\_\_3. Pure compound – only one type of compound present.

\_\_\_4. Mixture of two compounds – two types of compounds present.

\_\_\_5. Mixture of a compound and an element.